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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/632,320	08/01/2003	Gerard J. Hayes	9314-43	5223

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EXAMINER	
TRAN, CHUC	

ART UNIT	PAPER NUMBER
2821	

DATE MAILED: 10/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/632,320	HAYES, GERARD J.	
	Examiner	Art Unit	
	Chuc D. Tran	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *04 August 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-20 and 23-33* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-20 and 23-33* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *8/1/03* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments filed Aug 04, 2005 have been fully considered but they are not persuasive.

Applicant argues that the patent for Ying et al does not disclose a flat panel speaker. The Examiner respectfully disagree. The Ying et al clearly teach the flat panel speaker (23) (Fig. 1). In the Drawing Objection, Applicant also argues that the reference characters "balanced feed" and the reference characters "135R, 137R, 710, 715" *See* the specification. As described in the Applicant's specification, the reference characters "135 and 137" are the lead "135, 137" (*See Applicant's Specification*). Applicant is reminded that it has been held that limitations from the specification will not be import or read into the claims. *In re Priest, 582 F. 2d 33, 37, 199 USPQ 11, 15 (CCPA 1978).*

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims 9-10, 20, and 23-24. Therefore, the "balanced feed" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure

must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference characters "135R, 137R" and "720, 725" have both been used to designate the "tank circuit" in (Fig. 7C), and the characters "135R, 137R" and "710, 715" have both been used to designate the "inductor" in (Fig. 7B). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 15, and 27-33 are rejected under 35 U.S.C. 102(e) as being anticipated by Ying et al (US 2005/0024271).

Regarding claims 15, 27-29, Ying et al disclose a wireless terminal comprising:

- a housing (165) (Fig. 5);
- an electronic circuit (30) disposed within the housing (Fig. 5);
- a flat speaker (23) positioned proximate a back side of the electronic circuit (30) within the housing (Fig. 5); wherein
- the speaker (23) is integrated with an antenna (20) (Fig. 1);
- the internal antenna (20) positioned proximate the speaker on the back side of the electronic circuit within the housing (Fig. 5); and wherein
- the speaker is configured to act as a parasitic element to the internal antenna that provides an increased bandwidth frequency response for the internal antenna (Page 2, Col. 1, Line 6).

Regarding claim 30, Ying et al disclose that the flat speaker (23) configured to operate at a multi band frequency response for the planar antenna (20) (Page, 2, Col. 1, Line 6).

Regarding claim 31, Ying disclose that the planar antenna (20) comprises a planar inverted-F antenna (PIFA) (Page, 6, Col. 2, Line 11).

Regarding claim 32, Ying disclose that the planar antenna (20) comprises a single contact patch antenna (Page 4, Col. 1, Line 27).

Regarding claim 33, Ying disclose that the planar antenna comprises a monopole antenna (Fig. 4).

1. Claims 1-14,and 16-26 are rejected under 35 U.S.C. 102(e) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Ying et al (US 2005/0024271).

Regarding claims 9 and 23, Ying et al disclose a wireless terminal comprising:

- a housing (165) (Fig. 5);
- an electronic circuit (30) disposed within the housing (Fig. 5);
- a speaker (23) positioned proximate a back side of the electronic circuit within the housing (Fig. 5);
- an internal antenna (20) positioned proximate the speaker on the back side of the electronic circuit within the housing (Fig. 5);
- a balanced feed (161s) (Fig. 5) (Page 6, Col. 1, Line 40).

However, Ying et al is silent on the limitation of a conventional electronic circuit includes an audio driver circuit. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ying et al by providing the conventional electronic circuit includes the audio driver circuit. The ordinary artisan would have been motivated to modify Ying et al in the manner described above for providing operation at a plurality of resonance frequency bandwidths of operation as described in (Ying et al, Page 1, Col. 2, Line 61).

Regarding claims 10 and 24, Ying disclose that the balanced feed (161s) comprises a plurality of leads, and wherein the electronic circuit further comprises an RF isolation circuit (161s) on each lead (28, 128) of the balanced feed (161s) (Fig. 5) (Page 6, Col. 1, Line 40).

Regarding claims 11 and 25, Ying disclose that the RF isolation circuit (161s) comprises a tank circuit (Fig. 5).

Regarding claims 12 and 26, Ying disclose that the RF isolation circuit comprises an inductor (Page 6, Col. 2, Line 1).

Regarding claim 1, Ying et al disclose a wireless terminal comprising:

- a housing (165) including an earpiece (30a) on a front face of the housing (Fig. 1 & 5); - an electronic circuit (30) disposed within the housing (Fig. 5);

- a flat-panel speaker (23) positioned proximate a back side of the electronic circuit (30) within the housing (Fig. 5); and

- an internal antenna (20) positioned proximate the flat-panel speaker on the back side of the electronic circuit within the housing (Fig. 5), wherein the electronic circuit (30) is positioned between the front face (165) of the housing and the flat panel speaker (23) and internal antenna (20) (Fig. 5).

Regarding claim 2, Ying et al disclose that the flat-panel speaker (23) is integrated with the internal antenna (20) (Fig. 1).

Regarding claim 3, Ying et al disclose that the flat-panel speaker and the internal antenna each comprise conductive portions that reside on a first primary surface of a common substrate (Fig. 5).

Regarding claim 4, Ying et al disclose that the internal antenna is a planar antenna (Page 3, Col. 2, Line 35).

Regarding claim 5, Ying et al disclose that the housing includes a keyboard (38) on the front face of the housing (Fig. 1).

Regarding claim 6, Ying et al disclose that the electronic circuit comprises a printed circuit board (30), and wherein the wireless terminal further comprises a forward acoustic passageway (15) extending from the flat-panel speaker (23) to the earpiece (30a) (Fig. 1), the forward acoustic passageway comprising at least one acoustic aperture (15) extending through the printed circuit board adjacent the flat-panel speaker (Fig. 1).

Regarding claim 8, Ying et al disclose that the electronic circuit comprises a printed circuit board (30) having a signal feed (28) and a ground plane (125) (Fig. 5), and wherein the internal antenna (20) is operatively coupled to the signal feed and the ground plane (Fig. 5).

Regarding claims 13 & 14, Ying et al disclose that the flat-panel speaker (23) is configured to act as a parasitic element to the internal antenna (Page 2, Col. 1, Line 6)

Regarding claim 16, Ying et al disclose that the flat-panel speaker is configured to act as a parasitic element that provides a multi-band frequency response for the internal antenna (Page, 1, Col. 2, Line 61).

Regarding claim 17, Ying et al disclose that the internal antenna comprises a planar inverted-F antenna (PIFA) (Page 3, Col. 1, line 42).

Regarding claim 18, Ying et al disclose that the internal antenna comprises a single-contact patch antenna (Page 5, Col. 1, Line 57).

Regarding claim 19, Ying et al disclose that the internal antenna comprises a monopole antenna (Fig. 4).

Regarding claim 20, Ying et al disclose the wireless terminal as set forth in the claims except an audio driver circuit. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ying et al by providing the conventional electronic

circuit includes the audio driver circuit. The ordinary artisan would have been motivated to modify Ying et al in the manner described above for providing operation at a plurality of resonance frequency bandwidths of operation as described in (Ying et al, Page 1, Col. 2, Line 61).

Regarding claim 7, Ying et al disclose the wireless terminal as set forth in the claims except the internal antenna is positioned between the printed circuit board and the flat-panel speaker. Thus, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Ying et al by switching the internal antenna position between the printed circuit board and the flat-panel speaker. The ordinary artisan would have been motivated to modify Ying et al in the manner described above for providing operation at a plurality of resonance frequency bandwidths of operation as described in (Ying et al, Page 1, Col. 2, Line 61).

Inquiry

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chuc D. Tran whose telephone number is (571) 272-1829. The examiner can normally be reached on M-F Flex hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

TC
October 16, 2005

TUYET VO
PRIMARY EXAMINER